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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,153	12/14/2001	Bill Mitchell	501641	2634
23626	7590	03/04/2004		EXAMINER
LEYDIG VOIT & MAYER, LTD				COCKS, JOSIAH C
6815 WEAVER ROAD				
ROCKFORD, IL 61114-8018			ART UNIT	PAPER NUMBER

3749

DATE MAILED: 03/04/2004

J

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/017,153	MITCHELL ET AL
	<b>Examiner</b>	<b>Art Unit</b>
	Josiah Cocks	3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 December 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____.  | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Receipt of applicant's amendment filed 12/12/03 is acknowledged.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the diaphragm valve" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Claim 13 is dependent upon claim 11, which does not introduce a diaphragm valve. However, claim 12 does introduce such a valve. As best can be determined, and of the purpose of examination on the merits, claim 13 has been regarded as being dependent upon claim 12. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Harwath et al.* (US # 5,692,680) (cited by applicant) in view of *Nakamura et al.* (US # 4,544,349).

*Harwath et al.* discloses in Figure 1 a fuel oil supply circuit for supplying fuel oil to a nozzle in an oil burner substantially as described in applicant's claims 1-20 including an oil pump (13), an oil regulating valve (27), a diaphragm valve (28) connected to the pump in parallel with the regulating valve assembly (see Fig. 1). The regulating valve (27) includes a piston and spring assembly (see col. 6, lines 5-42).

*Harwath et al.* does not disclose that the regulating valve is electrically controlled by means of a solenoid valve.

*Nakamura et al.* teaches a fuel oil supply assembly for an oil burner in the same field of endeavor as *Harwath et al.* wherein the assembly of *Nakamura et al.* includes an oil regulating valve assembly that includes a electrically controlled solenoid (66) that is controlled by an electrical control of the burner (see col. 4, line 30, through col. 5, line 33).

Claims 1 and 11 have been amended by applicant to recite that the diaphragm operates at startup preventing premature output of oil in the event of premature opening of the regulating valve assembly by the solenoid valve. However, the examiner notes that the diaphragm valve (28) of *Harwath et al.* is closed at startup and would function to prevent premature output of oil regardless of whether the regulating valve assembly is prematurely opened via a mechanical device or an electrical control device. Therefore, the examiner considers the structure and its function recited in applicant's claims to be present in *Harwath et al.* in view of *Nakamura et al.*

Therefore, in regard to claims 1-20, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the fuel oil supply circuit of *Harwath et al.* to include a electrically controlled solenoid oil regulating valve as taught by *Nakamura et al.* as such a device desirably functions as a safety mechanism in controlling fuel flow in the even to a power stoppage (see *Nakamura et al.*, col. 1, line 61 through col. 2, line 16) and the solenoid valve functions to achieve low and high rates of combustion as desired (see *Nakamura et al.*, col. 5, lines 11-19).

#### ***Response to Arguments***

7. Applicant's arguments filed 12/12/03 have been fully considered but they are not persuasive. As noted in item 6 above, the examiner considers that the diaphragm valve of *Harwath et al.* would function as recited in applicant's claims even if the regulating valve assembly is operated by means of a mechanical controlled pump. Therefore, when *Harwath et al.* is modified to include an electronic control, the diaphragm valve would still operate as claimed by applicant. Applicant also argues that there is no motivation to include the electronic

control solenoid in the mechanical assembly of *Harwath et al.* However, the examiner considers that the improved safety operation and ability to achieve low and high rates of combustion resulting from the use of the electric solenoid control of *Nakamura et al.*, as far as is proper, are sufficient motivation to combine.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (703) 305-0450. The examiner can normally be reached on weekdays from 7:30 AM to 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached at (703) 308-1935. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

jcc

March 2, 2004

  
JOSIAH COCKS  
PATENT EXAMINER  
ART UNIT 3749